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MEMO NO: 25X1

MEMORANDUM FOR:

SUBJECT: Level of Alloy Steel Production in Communist China

1. Information concerning total output of crude steel in Communist China has been lacking since 1960 and no aggregative information has ever been available on alloy and special steels. Nevertheless, some indication of the level of activity in the alloy sector of the industry during recent years can be deduced from Chinese imports of alloying materials used in alloy steel production.

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2. [redacted] a relatively high level of activity at most mills known to have been significant producers of alloy steel prior to the information blackout in 1960. It is also known, however, that the proportion of alloy steel to total steel production at many of these plants was small. Therefore, merely because a plant was operating at a relatively high level [redacted] would not necessarily mean a correspondingly high level of alloy steel production.

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3. In the case of China, a further indication of the level of alloy steel production is the level of imports of those alloying materials that the country possesses in only very limited indigenous reserves, particularly chrome and nickel. Estimated imports of chrome, both metallurgical and refractory grades, and nickel in 1962 were at or near the 1960 level. Information for 1963 is incomplete. Using analogous western consumption data some insight into the level of alloy steel output on the mainland is possible.

4. In the US during 1962 approximately 58,000 tons of nickel, or roughly one-half of total domestic consumption, was used by the steel industry in the production of approximately 9 million tons of stainless and engineering-alloy steels and high-temperature and electrical resistance alloys. (The remaining 50 percent of US consumption of nickel in 1962 was utilized in other industrial applications, principally in the production of nonferrous alloys, cast irons, catalysts, and for electro plating.) On an average basis the quantity of nickel consumed in the steel industry relative to the amount of alloy steel produced, including stainless, in the US during 1962 therefore amounted to about 0.65 percent.

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5. Known Chinese imports of nickel in terms of metal content approximated 5,000 tons in 1962, which since domestic output of nickel is believed to be negligible, probably represented the maximum amount available for consumption from current supply. Using the US nickel input figure of 0.65 percent and assuming that as in the US at least one half of the nickel supply, or 2,500 tons, was consumed by the steel industry in the neighborhood of 350,000 tons of alloy steel could have been produced in 1962. Such an analogy, of course, can suggest only a general order of magnitude and is subject to a considerable range of error. Unknowns include how much of the 5,000 tons of nickel was used in the alloy steel sector (no evidence of stockpiling is available) as well as how closely the 0.65 input factor corresponds with that in China. An additional unknown is what portion of the Chinese alloy steel, once produced, is of an acceptable quality. In this latter connection, a competent observer who toured five Chinese steel plants during September and October 1963 indicated the reject rate for alloy ingots at the Dairen Alloy Steel Mill was running about 40 percent.

6. It should also be noted that Chinese press releases over the past two years indicate a continued priority for the production of alloy and special steels.

7. However, even though domestic output may have continued at a reasonably high level, the total supply of alloy steel available to the economy would be sharply below that of 1960. Estimated imports of finished steel products in 1962, a large portion of which consisted of alloy types, probably amounted to about 270,000 tons compared with approximately 600,000 tons in 1960.

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